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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,326	09/26/2003	Yong Cheol Park	0465-1030P	5080
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EXAMINER				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/670,326

Applicant(s)

PARK ET AL.

Examiner

LaTanya Bibbins

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 7, 9-21, 23 and 25-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7, 9-21, 23 and 25-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 September 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 3, 2008 has been entered.
2. In the remarks filed on March 3, 2008, Applicant amended claims 1, 17, 32, and 33, and submitted arguments for allowability of pending claims 1-3, 5, 7, 9-21, 23, and 25-34.

Response to Arguments

3. Applicant's arguments with respect to claims 1-3, 5, 7, 9-21, 23, and 25-34 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 9-11, 17, 25, 26, and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US PGPub 2001/0009537 A1) in view of Ijtsma et al. (US Patent Number 6,606,285 B1).

Regarding claim 1, Park discloses a method for managing an optical recording medium having at least one defective area in a user data area, said method comprising:

recording data recorded in the defective area in a spare area of the optical recording medium as replacement data (Figure 1 and paragraph [0028]) and providing a first temporary defect list having a defect entry for the at least one defective area (see Figure 1 and the PDL and SDL described in paragraph [0029]);

recording, in a temporary defect management area, a cumulative temporary defect list for an additional defective area in the user data area, wherein the cumulative temporary defect list includes the first temporary defect list previously recorded and at least one additional defective entry for any additional defective area (see the discussion in paragraphs [0030]-[0034] where the PDL and SDL store multiple entries corresponding to defective and replacement sectors); and

recording latest cumulative temporary defect list recorded in the temporary defect management area in a final defect management area when the recording medium is to be finalized (see paragraphs [0030]-[0034] and the discussion of the PDL and SDL located in the DMA; since the SDL, which is located in the DMA, is updated at the recording time the location of the defect information that remains when recording is ended is considered the "final defect management area").

Park fails to disclose that the temporary defect management area is separately positioned from the final defect management area. Ijtsma, however, discloses a method for managing an optical recording medium wherein the temporary defect management area is separately positioned from the final defect management area (see the discussion of the MDT, SDT, and/or TDT in column 5 lines 30 – column 6 line 7 and the location of the MDT, SDT, and/or TDT in Figures 2 and 4, also in Figures 14 and 15; note that the SDT is updated when the disc is ejected from a recorder and as such serves a final defect management area when the recording medium is finalized).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Ijtsma into that of Park. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to provide good protection against local defects in the disk (dust scratches, etc.) as suggested by Ijtsma (column 6 lines 12 and 13).

Regarding claim 9, Park further discloses wherein each of the first temporary defect list and the cumulative temporary defect list includes management information for the data within the respective defective areas (see paragraphs [0030]-[0034] where the PDL and SDL entries comprises sector numbers corresponding to the defective sector and sectors to be subjected to the replacement process).

Regarding claim 10, Park further discloses wherein the management information includes a first physical sector number of the replacement data for each defect entry and a first physical sector number of a defective area for each defect entry

(see paragraphs [0030]-[0034] where the PDL and SDL entries comprises sector numbers corresponding to the defective sector and sectors to be subjected to the replacement process).

Regarding claim 11, Park further discloses wherein the spare area of the optical recording medium includes an inner spare area and an outer spare area (see Figures 4A and 4B and the discussion of the primary and supplement spare areas in paragraphs [0038] and [0041]), and the step of recording data recorded in the defective area utilizes at least one of the inner spare area and the outer spare area (paragraph [0040]).

Regarding claim 17, Park discloses a recording medium comprising: at least one spare area within a data area (see Figure 1);

a temporary defect management area for managing replacement data of at least one defective area within a user data area of the data area (see the DMA areas in Figure 1 and paragraph [0031]);

a cumulative temporary defect list stored within the temporary defect management area, wherein the cumulative temporary defect list includes management information for the replacement data of said at least one defective area cumulatively recorded and management information for replacement data for at least one additional defective area of the user data area (see the discussion in paragraphs [0030]-[0034] where the PDL and SDL store multiple entries corresponding to defective and replacement sectors) and

a final defect management area for storing latest cumulative temporary defect list recorded in the temporary defect management area when the recording medium is to be

finalized (see paragraphs [0030]-[0034] and the discussion of the PDL and SDL located in the DMA; since the SDL, which is located in the DMA, is updated at the recording time the location of the defect information that remains when recording is ended is considered the "final defect management area").

Park fails to disclose that the temporary defect management area is separately positioned from the final defect management area. Ijtsma, however, discloses a recording medium wherein the temporary defect management area is separately positioned from the final defect management area (see the discussion of the MDT, SDT, and/or TDT in column 5 lines 30 – column 6 line 7 and the location of the MDT, SDT, and/or TDT in Figures 2 and 4, also in Figures 14 and 15; note that the SDT is updated when the disc is ejected from a recorder and as such serves a final defect management area when the recording medium is finalized).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Ijtsma into that of Park. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to provide good protection against local defects in the disk (dust scratches, etc.) as suggested by Ijtsma (column 6 lines 12 and 13).

Regarding claim 25, Park further discloses wherein each of the management information of the cumulative temporary defect list includes a first physical sector number of the replacement data for each defect entry and a first physical sector number of a defective area for each defect entry (see paragraphs [0030]-[0034] where the PDL

and SDL entries comprises sector numbers corresponding to the defective sector and sectors to be subjected to the replacement process).

Regarding claim 26, Park further discloses wherein the at least one spare area includes an inner spare area and an outer spare area (see Figures 4A and 4B and the discussion of the primary and supplement spare areas in paragraphs [0038] and [0041]), and the replacement data for the at least one defective area is located in at least one of the inner spare area and the outer spare area (paragraph [0040]).

Claim 32 is drawn to the apparatus corresponding to the method of using same as claimed in claim 1. Therefore apparatus claim 32 corresponds to method claim 1, and is rejected for the same reason of anticipation as used above.

Regarding claim 33, Park discloses a method for managing an optical recording medium having at least one defective area in a user data area, said method comprising:

recording data recorded in the defective area in a spare area of the optical recording medium as replacement data (Figure 1 and paragraph [0028]);

recording a first data block in a temporary defect management area, the first data block including a first defect list comprising one or more first defect entry and access information, the first defect entry including position information of defective area and a replacement area of the spare area and the access information indicating the position of the first defect list (see the description of the SDL in paragraphs [0029], and [0032]-[0034] particularly where the SDL entries comprises sector numbers corresponding to the defective sector and sectors to be subjected to the replacement process); and

recording a second data block in the temporary defect management area, the second data block including a second defect list comprising a plurality of defect entries and access information, the plurality of defect entries including the first defect entry and a new second defect entry and the access information indicating the position of the second defect list, the new second defect entry including position information of new defective area and a new replacement area of the spare area (see the description of the PDL in paragraphs [0029]-[0031], particularly where the PDL entries comprises sector numbers corresponding to the defective sector and sectors to be subjected to the replacement process, and Figure 5B and the discussion in paragraphs [0049]-[0052] where the SDL entries are moved to the new PDL),

wherein the first data block, the second data block and the next data block are recorded in different areas of the temporary defect management area (see Figure 1 and the discussion in paragraph [0029] where the PDL is located in the first block of the DMA and the SDL is located in the second block of the DMA).

Park fails to disclose while Ijtsma discloses wherein a latest cumulative defect list is transferred from the temporary defect management area to a final defect management area upon finalization, and wherein the temporary defect management area is separately positioned from the final defect management area (see the discussion of the MDT, SDT, and/or TDT in column 5 lines 30 – column 6 line 9 and the location of the MDT, SDT, and/or TDT in Figures 2 and 4, also in Figures 14 and 15; note that the SDT is updated when the disc is ejected from a recorder and as such serves a final defect management area when the recording medium is finalized).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Ijtsma into that of Park. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to provide good protection against local defects in the disk (dust scratches, etc.) as suggested by Ijtsma (column 6 lines 12 and 13).

Regarding claim 34, Park further discloses wherein the first data block is a single data unit (see the description of the SDL in paragraphs [0029], and [0032]-[0034]).

6. Claims 2, 3, 5, 12, 16, 18-21, 27, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US PGPub 2001/0009537 A1) and Ijtsma et al. (US Patent Number 6,606,285 B1), as applied to claims 1 and 17 above, and further in view of Ohata et al. (US Patent Number 6,469,978 B1).

Regarding claim 2, the combination of Park and Ijtsma disclose the method according to claim 1, but does not disclose recording information for accessing the cumulative temporary defect list as temporary disc definition structure information in a temporary disc definition structure area of the temporary defect management area. Ohata, however, discloses recording information for accessing the cumulative temporary defect list as temporary disc definition structure information in a temporary disc definition structure area of the temporary defect management area (column 1 lines 33-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disc definition structure as taught by Ohata into the method of Park and Ijtsma. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to produce a recording medium whose data format is in line with the standard of conventional optical discs (see column 1 lines 15-23).

Regarding claim 3, Park further discloses wherein the cumulative temporary defect list and the temporary disc definition structure information are recorded in the same area of the temporary defect management area (see Figure 1 and the discussion paragraph [0029], specifically regarding the DDS, PDL, and SDL).

Regarding claim 5, Park further discloses recording the temporary disc definition structure information in the final defect management area when the recording medium is to be finalized (see Figure 1 where the DDS is located in the DMA and paragraphs [0030]-[0034] particularly the discussion of the PDL and SDL located in the DMA; since the SDL, which is located in the DMA, is updated at the recording time the location of the defect information that remains when recording is ended is considered the "final defect management area").

Regarding claim 12 the combination of Park and Ijtsma disclose the method according to claim 1. Park additionally discloses wherein the cumulative temporary defect list is repeatedly recorded (see paragraph [0059] where the PDL registration can be continuously performed) but does not specifically disclose that the cumulative temporary defect list is repeatedly recorded in at least two areas of the optical recording

medium. Ohata, however, discloses a method for managing an optical recording medium having at least one defective area in a user data area wherein the defect list is recorded in at least two areas of the optical recording medium (see column 8 lines 39 and 40 where the DMA contains a defect list, and further in column 7 lines 47 and 48 where multiple DMA's have identical contents).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate recording the defect list in at least two areas of the optical recording medium as taught by Ohata into the method of Park and Ijtsma. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to increase reliability (see Ohata column 7 lines 47 and 48).

Regarding claim 16, Park further discloses recording temporary disc definition structure information in a lead-in area of the optical recording medium (see paragraph [0029] where the DMA, which is located in the lead-in area, includes a disc definition structure).

Regarding claim 18, the combination of Park and Ijtsma disclose the recording medium according to claim 17, in addition, Park discloses a temporary disc definition structure within a lead-in area of the recording medium (see paragraph [0029] where the DMA, located in the lead-in area, includes a disc definition structure), but does not specifically disclose wherein the recording information for accessing the cumulative temporary defect list is stored as temporary disc definition structure information within the temporary disc definition structure. Ohata, however, discloses wherein recording

information for accessing the cumulative temporary defect list is stored as temporary disc definition structure information within the temporary disc definition structure (column 1 lines 33-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disc definition structure as taught by Ohata into the recording medium of Park and Ijtsma. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to produce a recording medium whose data format is in line with the standard of conventional optical discs (see column 1 lines 15-23).

Regarding claim 19, Park further discloses wherein the cumulative temporary defect list and the temporary disc definition structure information are recorded in the lead-in area of the optical recording medium (see Figure 1 and paragraph [0029] where the DMA, which is located in the lead-in area, includes a DDS, PDL, and SDL).

Regarding claim 20, Park further discloses wherein the cumulative temporary defect list and the temporary disc definition structure information are recorded in a temporary defect management area of the optical recording medium (see Figure 1 and the discussion paragraph [0029], specifically regarding the DDS, PDL, and SDL).

Regarding claims 21, 27 and 31, these claims contain limitations similar to those in claims 5, 12 and 16, respectively, and are rejected for the same reasons of obviousness as used above.

7. Claims 7 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US PGPub 2001/0009537 A1) and Ijtsma et al. (US Patent Number 6,606,285 B1), as applied to claims 1 and 17 above, and further in view of Lee et al (US Patent Number 6,934,236 B2).

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Regarding claim 7, the combination of Park and Ijtsma disclose the method according to claim 1 but does not disclose wherein the optical recording medium is a Blu-ray disc of writable once type (BD-WO). Lee, however, discloses a storage medium with defect management wherein the optical recording medium is a Blu-ray disc of writable once type (BD-WO) (column 8 lines 28-33 and Figure 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Lee with that of Park and Ijtsma. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to provide capability for discs shown or created in the future (Lee column 8 lines 28-33).

Regarding claim 23, this claim contains limitations similar to those in claim 7, and is rejected for the same reason of obviousness as used above.

8. Claims 13-15 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US PGPub 2001/0009537 A1), Ijtsma et al. (US Patent

Number 6,606,285 B1), and Ohata et al. (US Patent Number 6,469,978 B1), as applied to claims 12 and 27 above, and further in view of Takahashi (US PGPub 2002/0136537 A1).

Regarding claim 13, Park, Ijtsma, and Ohata disclose the method according to claim 12, but do not disclose wherein the at least two areas of the optical recording medium are a portion of a data area and a lead-in area of the optical recording medium. Takahashi, however, discloses wherein the at least two areas of the optical recording medium are a portion of a data area and a lead-in area of the optical recording medium (see the discussion in paragraphs [0074] and [0076] where two or more DMAs may be simultaneously rewritten and the DMA can be moved to another area or two positions).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings Park, Ijtsma, and Ohata with that of Takahashi. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to maintain the reliability of the data stored in the DMA without multiple writes of the DMA (Takahashi paragraph [0074]).

Regarding claim 14, Park, Ijtsma, and Ohata disclose the method according to claim 13, but do not disclose wherein the portion of the data area is an area adjacent to an outer spare area of the optical recording medium. Takahashi, however, discloses wherein the portion of the data area is an area adjacent to an outer spare area of the optical recording medium (see the discussion in paragraphs [0074] and [0076] where

two or more DMAs may be simultaneously rewritten and the DMA can be moved to another area or two positions).

Regarding claim 15, Park, Ijtsma, and Ohata disclose the method according to claim 12, but do not disclose wherein the at least two areas of the optical recording medium are front and end parts of a data area of the optical recording medium. Takahashi, however, discloses wherein the at least two areas of the optical recording medium are front and end parts of a data area of the optical recording medium

Regarding claims 28, 29 and 30, these claims contain limitations similar to those in claims 13, 14 and 15, respectively, and are rejected for the same reasons of obviousness as used above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571)270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Art Unit: 2627

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LaTanya Bibbins/
Examiner, Art Unit 2627

/Wayne R. Young/
Supervisory Patent Examiner, Art Unit 2627